

WHAT IS CLAIMED IS:

1. A method comprising:
forming a tungsten plug in a dielectric layer;
forming an electrically conductive interconnect line on the dielectric layer after formation of the tungsten plug, wherein the tungsten plug is electrically connected to the electrically conductive interconnect line;
contacting the electrically conductive interconnect line with water after formation of the electrically conductive interconnect line;
wherein the electrically conductive interconnect line is contacted with the water for less than 120 minutes.
2. The method of claim 1 wherein the water is degasified and deionized.
3. The method of claim 1 wherein the water is deionized but not degasified.
4. The method of claim 1 wherein the water is degasified but not deionized.
5. The method of claim 1 wherein the water is neither degasified nor deionized.
6. The method of claim 1 wherein the water has a pH that is at or near neutral.
7. The method of claim 1 wherein the electrically conductive interconnect line is contacted with the water for less than 60 minutes.
8. The method of claim 1 wherein the electrically conductive interconnect line is contacted with the water for less than 15 minutes.
9. The method of claim 1 wherein the electrically conductive interconnect line is formed from a metal stack that includes one or more of titanium, titanium nitride, aluminum, an aluminum copper alloy, and an aluminum silicon copper alloy.
10. The method of claim 1 further comprising contacting the electrically conductive interconnect line with a solution to remove residual polymer after the electrically conductive interconnect line is contacted with the water

11. An integrated circuit partially formed by:
forming a tungsten plug in a dielectric layer;
forming an electrically conductive interconnect line on the dielectric layer after
formation of the tungsten plug, wherein the tungsten plug is electrically
connected to the electrically conductive interconnect line;
contacting the electrically conductive interconnect line with water after formation of
the electrically conductive interconnect line;
wherein the electrically conductive interconnect line is contacted with the water for
less than 120 minutes.
12. The integrated circuit of claim 11 wherein the water is degasified and
deionized.
13. The integrated circuit of claim 11 wherein the water is deionized but not
degasified.
14. The integrated circuit of claim 11 wherein the water is degasified but not
deionized.
15. The integrated circuit of claim 11 wherein the water is neither degasified nor
deionized.
16. The integrated circuit of claim 11 wherein the water has a pH that is at or near
neutral.
17. The integrated circuit of claim 11 wherein the electrically conductive
interconnect line is contacted with the water for less than 60 minutes.
18. The integrated circuit of claim 11 wherein the electrically conductive
interconnect line is contacted with the water for less than 15 minutes.
19. The integrated circuit of claim 11 wherein the electrically conductive
interconnect line is formed from a metal stack that includes one or more of titanium, titanium
nitride, aluminum, an aluminum copper alloy, or an aluminum silicon copper alloy.

20. The integrated circuit of claim 11 further formed by contacting the electrically conductive interconnect line with a solution to remove residual polymer after the electrically conductive interconnect line is contacted with the water.

21. The method of claim 10 wherein the solution is alkaline or basic solution having a pH of 10 – 12.

22. The integrated circuit of claim 20 wherein the solution is alkaline or basic solution having a pH of 10 – 12.

23. The method of claim 1 wherein the electrically conductive interconnect line is formed from a metal stack that is comprised of titanium, titanium nitride, and an aluminum copper alloy consisting of 99.5% aluminum and 0.5% copper.

24. The integrated circuit of claim 11 wherein the electrically conductive interconnect line is formed from a metal stack that is comprised of titanium, titanium nitride, and an aluminum copper alloy consisting of 99.5% aluminum and 0.5% copper.

25. The method of claim 1 further comprising contacting the tungsten plug with the water after formation of the electrically conductive interconnect line.

26. The integrated circuit of claim 11 further formed by contacting the tungsten plug with the water after formation of the electrically conductive interconnect line.